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AMSAT NEWS SERVICE
ANS-006

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see:
http://www.amsat.org/mailman/listinfo/ans

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SB SAT @ AMSAT $ANS-006.01
ANS-006 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 006.01
 From AMSAT HQ KENSINGTON, MD.
DATE January 6, 2019
To All RADIO AMATEURS
BID: $ANS-006.01

Recurring Donations Feature Added to AMSAT.org

Would you like to donate to AMSAT and/or ARISS but can only afford a little at a time? Even small amounts help, especially as they add up over time! You can now use AMSAT’s recurring donations on the new donation portal at https://www.amsat.org/donations/

This is a great way for everyone to donate $5-10 a month over time to make a significant contribution.

Thank you for helping keep amateur radio in space.

[ANS thanks Paul Stoetzer, N8HM for the above information]

D-STAR ONE Launched, Telemetry Received

German Orbital Systems reports a successful telemetry downlink has been received. Their web page http://www.d-star.one/ reports D-Star ONE Sparrow and D-Star ONE iSat were successfully launched on December 27 as part of an ECM smallsat cluster on the Soyuz-2/Fregat from Russia's Vostochny launch site. Additional details can be found at: http://tinyurl.com/ANS-006-DSTAR-ONE

During the first orbits, beacons were received in the US, Germany, Czech Republic and Belarus, confirming the successful separations of the satellites on their target orbit 585 km, 97.73 deg, SSO.

D-Star ONE Sparrow and D-Star ONE iSat are a pair of 3U cubesats which are equipped with four identical radio modules with D-Star capabilities, all being operated in a half-duplex mode. At press time DSTAR One Sparrow was planned to be used for amateur radio.

DK3WN received the first telemetry on December 29, 2018 with more signals received by Scott, K4KDR and Vladimir, EU1SAT. Check the German Orbital Systems web page for LEOP status and satellite availability for contacts.

D-Star ONE Sparrow operates as a half duplex repeater:
Callsign: DP1GOS
Uplink: 437.325 MHz
Downlink: 435.525 MHz RF-Power: 800-1200 mW
Telemetry: 435.700 MHz 4k8 GMSK Mobitex (CMX990 Mobitex Format)

The telemetry format is documented at:
http://tinyurl.com/ANS-006-DSTAR-ONE-Telemetry
A telemetry decoder is available at:
http://www.dk3wn.info/p/?page_id=29535

Technical details for radio amateurs is posted at:
http://tinyurl.com/ANS-006-DSTAR-ONE-Amateur

A D-Star voice message beacon transmits once a minute. All modules are operated in a power save mode. This means that they are in idle for 40 seconds and then in receive mode for 20 seconds. Once a signal has been received, the modules switch to receive mode for five minutes. So it might be necessary to "ping" the satellite a couple of times until an answer is received. Object #43879 continues to be a likely fit for tracking at present.

[ANS thanks German Orbital Systems for the above information]

Ham Talk Live Podcast Featuring W6RO Satellite Operation

If you missed the January 3 Ham Talk Live show featuring Patrick Stoddard, WD9EWK, Endaf Buckley, N6UTC, and David Akins, N6HHR, discussing amateur radio and satellite operation on the RMS Queen Mary you can play back a recording of this episode at:
https://www.spreaker.com/show/ham-talk-live then select
Episode 147 - Aboard the Queen Mary, W6RO.

Patrick and Endaf recently made a trip to the ship to do satel-

lite operations, so they will report on that special event. David will fill us in on the history of the ship's radio room and the routine amateur radio operations from W6RO.

Ham Talk Live is also available as a podcast on nearly all podcast sites: Apple Podcasts, Stitcher, Google Play, SoundCloud, and iHeart Podcasts; and it's also available on YouTube.

[ANS thanks Neil Rapp, WB9VPG, and Ham Talk Live for the above information]

PW-Sat2 Deorbit Sail Deployment - On-Board Camera Footage

PW-Sat2, the second Polish student satellite, also launched on the SpaceX Falcon 9 SSO-A flight with AMSAT Fox-1Cliff, is a student project with the goal to test a new deorbit sail. The sail was deployed on December 29, 2018. On-Board camera footage of the event can be viewed at: https://www.youtube.com/watch?v=9fbMzI9w4MM

Amateur radio operators are invited to take part in this mission. Dashboard software to receive, decode and upload PW-Sat2 frames to the PW-Sat2 cloud is available on their website: https://radio.pw-sat.pl/

The team has posted additional information at: https://github.com/PW-Sat2/HAMRadio/wiki

PW-Sat2 transmits on 435.275 MHz using 1k2 and 9k6 BPSK AX25.

[ANS thanks the PW-Sat2 team for the above information]

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Linear transponder
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Uplink:   145.900-145.930 MHz (CW/LSB)
Downlink: 435.880-435.910 MHz (CW/USB)
CW/Data:  435.900 MHz & 437.075 MHz
Callsign: JS1YAV

Separation from the rocket is planned for T + 4100 seconds after
launch at which time NEXUS will be powered on. CW telemetry infor-
mation will commence transmission 16 minutes, 40 seconds following
power up.

The NEXUS team has posted a PDF document in English describing the
planned initial operations, telemetry format, and preliminary TLEs
at: http://tinyurl.com/ANS-006-Nexus-Initial-Ops

NEXUS website in Google English
http://tinyurl.com/NEXUS-Satellite

NEXUS Blog
http://tinyurl.com/NEXUS-Sat-Blog

JAMSAT in Google English
http://tinyurl.com/JAMSAT

Read the AMSAT-UK posting at:
https://amsat-uk.org/2014/08/24/nexus-cubesat-mode-j-transponder/

[ANS thanks JAMSAT and Nippon University for the above information.]

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Australian National Scout Jamboree - AJ2019

Between January 4-14, 2019, 8400 Scouts from every Australian state
plus representatives from 18 nations will converge in Tailem Bend in
South Australia to participate in the 25th Australian Scout Jamboree
- AJ2019. Their special event station will be active using VI25AJ.

The special event station is expecting to showcase Amateur Radio to
approximately 2000 scouts over the duration of the Jamboree.

They will be active on the satellites as well as HF bands (SSB and
digital modes), IRLP and EchoLink.

They are looking for amateurs to give them a call during the
Jamboree to help give the scouts an amazing experience - and perhaps
take up the hobby on their return home.

Full schedule, modes and planned frequencies will be posted at:
https://www.qrz.com/db/vi25aj

[ANS thanks the ARRL for the above information.]

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     AMSAT and ARISS are currently supporting a FundRazr campaign
     to raise $150,000 for critical radio infrastructure upgrades
     on ISS. The upgrades are necessary to enable students to
     continue to talk to astronauts in space via Amateur Radio.
      We have reached a great milestone with $16,795 raised
     or about 10% towards our goal. This would not have been
          possible without your outstanding generosity!!
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For more information and to DONATE TODAY visit:

https://fundrazr.com/arissnextgen?ref=ab_e7Htwa_ab_47IcJ9

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DL50AMSAT Callsign IG HamSpirit Satellite Weekend January 18-20

The IG HamSpirit Satellite Weekend January 18-20 will feature the new AMSAT-DL callsign DL50AMSAT on the air from Saxony on the Czech border. Also planned are antenna construction and testing projects and testing satellite tracking programs on a variety of operating systems.

IG HamSpirit hosts several radio events during the year with this event dedicated to amateur satellite operating. AMSAT-DL says you can track the event on Instagram and Twitter with the hashtag #satelliteweekend

[ANS thanks AMSAT-DL for the above information]

VUCC Awards-Endorsements for December 2018

Ron, W5RKN has provided the endorsements and new VUCC Satellite Awards issued by the ARRL for the period December 1, 2018 through January 1, 2019. Congratulations to all those who made the list this month!

CALL	01Dec	01Jan
KO4MA	1627	1656
WC7V	1159	1160
W5RKN	634	660
WD9EWK	513	525
NS3L	350	375
PV8DX	313	360
AE5B	300	342
N3GS	300	332
K8BL	252	257
PT9BM	176	203
AD0HJ	175	200
KK4YEL	102	200
N7AGF	175	200
K9UO	150	175
AD0DX	101	167
W4AQT	125	153
PU8RFL	134	146
PS8MT	130	145
PU8MRS	100	127
LW2DAF	110	115
WD9EWK(DM23)	New	104
F6GLJ	New	103
WI4T	New	101
AI9IN	New	100

If you find errors or omissions please contact Ron off-list at <W5RKN>@<W5RKN>.com and he'll revise the announcement. This list was developed by comparing the ARRL .pdf listings for December 1, 2018 and January 1, 2019. It's a visual comparison so omissions are possible. Apologies if your call was not mentioned.

Thanks to all those who are roving to grids that are rarely on the

birds. They are doing most of the work!

[ANS thanks Ron Parsons, W5RKN for the above information]

AMSAT South Africa Dual-Band VHF/UHF Yagi

News from South Africa announces AMSAT SA is offering a dual-band VHF/UHF antenna. AMSAT SA is indebted to Dr Gary Immelman ZS6YI who has donated 200 units with all proceeds going to the AMSAT SA Kletskous and AfriCUBE projects.

The antenna has two elements on 145 MHz and 3 elements on 435 MHz. The Yagi has a unique element called a 'Open Sleeve' which is a director very close to the driven element. The driven element is sized for 2M. When operating on 70cm the 'Open Sleeve' acts as part of the driven element on 70cm (Third harmonic of 2M).

The original concept was developed in 1946 by Dr J T Bolljahn of the Stanford Research institute but was not introduced into amateur radio until the 1950s. The AMSAT SA version is based on a design by DK7ZB with modifications by WB5CXC.

The first South African version was a collaboration between Guy Eales, ZS6GUY and Dr Gary Immelman, ZS6YI. It was developed for YOTA 2018 where young people successfully used the antenna operating satellites using hand-held transceivers.

Although currently only available in South Africa, interested amateur radio operators can access detailed specifications and photos at: http://www.amsatsa.org.za/DualbandYagi.htm

[ANS thanks AMSAT SA for the above information]

Upcoming Satellite Operations

+ Central California (CM95, CM96, DM05, DM06, DM07, DM08, DM17, DM18)
  January 5-6, 2019 - Ron, AD0DX will be roving in Central California. He plans to activate the DM06/DM16 grid line Saturday morning, the DM 07/DM08/DM17/DM18 grid corner Saturday afternoon, and the CM95/CM96/DM05/DM06 grid corner on Sunday. Keep an eye on the @ad0dx Twitter feed for more updates https://twitter.com/ad0dx

+ Super Road Trip (Wyoming to Tennessee to Florida to Wyoming)
  January 9, 2019 until he gets back home - Starting Jan. 9, RJ, WY7AA, will be travelling from Wyoming to Tennessee to Florida, to New York and back to Wyoming, staying approximately 10 days in each place and activating grids whenever he can.
  - First stop Tennessee – EM86, and will try roving to EM85, EL87, EL96.
  - Next on to Florida – EL98, and will try roving to EL88, EL89, EL99.
  - Next on to New York – FN02, and try try roving to FN01, FN03, FN11, FN12, FN13

  Travelling between each place, RJ will try to stop and work as he can, but putting down miles will take priority most often. In addition, RJ will be trying to operate mobile from time to time. FM birds for sure, but will be trying to learn linears while on the trip. Specific pass announcements will be posted to his Twitter feed: (https://twitter.com/WY7AA) and to the AMSAT-bb reflector.

+ Central California (CM95, CM96, DM05, DM06) – January 12, 2019
  David, AD7DB, will be in the area of Kettleman City CA near a

convergence of four grids, operating on FM satellites. Grids (maybe gridlines) will depend on the satellite passes. Operation expected from 1700 UTC through 2300 UTC. Updates will be on Twitter as the time approaches: https://twitter.com/ad7db

+ Quartzfest Arizona (DM23) – January 19-27, 2019
John, N7JY, will be operating FM satellites on a holiday schedule. He may also visit some adjoining grids. There will likely be other hams operating from the event, located a few miles south of Quartzsite AZ. QSL via LOTW, or you can send your card with SASE.

+ Las Vegas NV and Northwest AZ (DM25, DM26, DM36) – January 20-22, 2019
David, AD7DB, will be in Las Vegas at DM25/26 line, operating on FM satellites on a holiday schedule. In addition, weather permitting, sometime on Monday 01/21/19 he will make a side trip to Beaver Dam AZ to activate from DM36aw. Updates will be on Twitter as the time approaches: https://twitter.com/ad7db

+ Nevada (DM15, DM16, DM17, DM18, DM25, DM26, DM27, DM28, DM37, DM36)
February 8-11, 2019 - Casey KI7UNJ and Jonathan KI5BEX are planning a joint roving trip to Nevada. Planned activations include the DM15/16/25/26 grid corner Friday morning, the DM16/26 gridline Friday afternoon, DM17/18 gridline Saturday morning, DM27/28 gridline Saturday evening, DM27/37 gridline Sunday morning, and DM36/37 gridline Sunday evening. This will be FM only. All contacts uploaded to LoTW upon return. Check out @KI7UNJ Twitter feed for specific passes https://twitter.com/KI7UNJ and follow them on aprs.fi KI7UNJ-7.

+ Turks and Caicos Islands (FL31) – February 28 – March 9, 2019
Adrian, AA5UK, will be heading to Providenciales in the Turks and Caicos Islands from Feb 28th through March 9th, 2019. He will be operating holiday style on HF and Satellites as VP5/AA5UK from grid FL31UU14. Focus will be on the linear satellites, with some FM activity depending on pile-up civility. Hope to work some European stations as location favors the East. Pass announcements will be made via Twitter: https://twitter.com/AA5UK and periodically via amsat-bb.

Please submit any additions or corrections to ke4al (at) amsat.org

[ANS thanks Robert Bankston, KE4AL for the above information]

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All QSOs will be uploaded to Logbook of the World after the hamfest. If you would like to receive a QSL card for working WD9EWK during the hamfest, please e-mail Patrick directly with the QSO details. If you are in his log, he will send you a QSL card.

Patrick will post updates from the hamfest on his @WD9EWK Twitter account. If you do not use Twitter, you can still see these updates in a web browser at: http://twitter.com/WD9EWK

[ANS thanks Patrick WD9EWK/VA7EWK for the above information]

Satellite Shorts From All Over

+ DK3WN reports that the 145.825 MHz APRS digipeater on NO-84 (PSAT) has been re-enabled and is available for operations. The digipeater is turned off for a recharging period when telemetry shows battery voltage is low. http://www.dk3wn.info/p/?p=92041

+ AO-73 (FUNcube-1) is now back to "Educational" mode after the holiday period (Transponder ON when in eclipse, with low power telemetry; High power telemetry when illuminated in sunlight.) Please keep tracking and sending in telemetry as the FUNcube team tries to better understand the spin effects over the next few months of full orbit sun. (AMSAT-UK)

+ AMSAT and radio amateurs extend best wishes and thank you to Alain, IZ6BYY and Claudio, IK1SLD for 17 years of service to the amateur space community on their ISSFanClub.com web site. ISSFanClub.com closed down on January 1, 2019. Alain wrote, "I hope you enjoyed this as much as I did. Thank you for your visits and your attention".

+ A new ISS fan presence has been started at http://issfanclub.eu/ Blog entries from January 3 and 4 are posted. Many of the pages are under construction in the new format.

+ CQ-DATV Magazine for January 2019 is available for download at: https://cq-datv.mobi/67.php

  Among the several features the article "Arduino SimpleSat Rotor Controller" by Tom Doyle, W9KE may be of particular interest to AMSAT satellite stations. Tom's controller uses the Yaesu GS-232 command set to control a Yaesu G-5500 Az-El rotor. The controller was designed to be compatible with the SatPC32 tracking program and should work with any tracking program that supports the Yaesu GS-232 format. (CQ-DATV Magazine via e-mail)

+ The Nashua Area Radio Society, N1FD has written a blog about their work in supporting Hudson Memorial School (HMS) in their bid to secure and hold an ISS Crew Contact. https://www.n1fd.org/2019/01/01/iss-crew-contact-journey/

+ An NPR radio news feature discusses, "What's Next For Tiny Satellites?". about NASA's Jet Propulsion Lab's Marco cubesats that accompanied the InSight lander mission to Mars. JPL says their next cubesat mission will be a solar sail flight to a near Earth asteroid. Read and listen at: http://tinyurl.com/ANS-006-NPR-CubeSat-News

+ Good coverage for amateur radio and amateur satellites appeared in

the Shropshire Star newspaper's ooverage of the Wellington Youngsters on the Air event, that saw young people talking to others from across the world, all under expert supervision. It was one of the events organised by Telford and District Amateur Radio Society to help attract younger people to the world of 'ham' radio. Read the article at: http://tinyurl.com/ANS-006-UK-YOTA (AMSAT-UK)

+ Bookings for the AMSAT SA Space Symposium are now open. The Symposium will be held on Saturday, March 16, 2019 at the Accolade Conference Centre in Midrand, South Africa. The rate will be R400 per person for AMSAT SA and SARL members and R600 for non-members. There is an early bird rate of R350 for AMSATSA and SARL Members, if booked and paid for by February 28, 2019. Accommodation is also available at the hotel at R855 plus VAT. More details on www.amsatsa.org.za

+ A calendar of upcoming astronomical events, launches, and spacecraft operations available as Google or iOS calendars: http://tinyurl.com/ANS-006-NYTimes-Astro-Calendar

+ Greg, W4GHW, program coordinator for the Coastal Plains ARC, sent a request for a presentation on any amateur satellites at their club. They meet in Tifton, Georgia on the second Saturday of each month. If you can help please e-mail Greg at w4ghw(a)arrl.net

+ A paper is available for downloading which may be of interest regarding telemetry: "Easy-to-Build Satellite Beacon Receiver for Propagation Experimentation at Millimeter Bands" can be accessed at: http://tinyurl.com/ANS-006-Millimeter-Telemetry

+ There are some amateur radio connections with the New Horizons probe which had a successful flyby of Ultima Thule on January 1. Lee, KT4TZ worked on the launch in 2006. Dan, N8FGV works on the New Horizons team now.

[ANS thanks everyone for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73 and remember to behave and to help keep amateur radio in space,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM

k9jkm at amsat dot org